

Elizabeth Anne Brown 15 November 1956 – 17 November 2013

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Abstract

A biography of Elizabeth Anne Brown, bryologist at the National Herbarium of New South Wales (NSW), is provided. She joined the staff at NSW in 1989 and died at Tahmoor, New South Wales on the 17th November 2013.

Introduction

Elizabeth Anne Brown was born on 15 November 1956 in Auckland, New Zealand. She was the second child and only daughter of Barbara Brown (née Bray, 1929–1998) and John Martin Ainley Brown (1928–2005) Professor of Plant Physiology, the University of Auckland) who emigrated from the Newcastle area of northern England to New Zealand on 19th March 1956. Since Government State housing was unavailable in New Zealand when they arrived, they initially stayed in a transit camp where Elizabeth was born. She had an elder brother, John Christopher Brown, born 12th August 1953, who died at the age of three just after Elizabeth's birth. The family eventually moved into a house in Cathedral Place, Parnell where Elizabeth's younger brother David was born in 1958. They later moved to Laurie Avenue, Parnell when Elizabeth was five and David three.

Education

Elizabeth attended the Parnell Primary School and in her final year was dux of the school. Her secondary education was at Epsom Girls Grammar, Epsom, Auckland. She undertook a Bachelor of Science degree at the University of Auckland, followed by a Masters of Science degree by thesis (*Some Studies in the New Zealand Targioniidae and Marchantinae*), graduating with honours in 1981. Also at the University of Auckland,

she completed her degree of Doctor of Philosophy on *Studies in the New Zealand Aneuraceae* in 1987. She undertook two long-term informal studies, one in French at the University of Sydney and the other in Tai Chi, achieving advanced skills in both.

Employment

In March 1989, Elizabeth became the second recipient of the Research Fellowship at the National Herbarium of New South Wales (NSW). She had completed a revision of the genus *Riccardia* S.F.Gray in New Zealand as part of her PhD studies (Brown and Braggins 1989). NSW was then inviting botanists from fields where they lacked expertise to work at the herbarium for short periods of time. NSW was delighted to welcome Elizabeth, an expert in liverworts. After her fellowship ended, Elizabeth stayed on at NSW using her own funds, participating in several field trips, adding to collections and knowledge, and forming links with other Australian bryologists. For several years she filled in temporary vacancies and job-shared part-time until, in 1993, she was appointed as a botanist (Scientific Officer) at NSW. In her new position, she continued her research on liverworts, curated the cryptogam collections and specialised in the systematics of the Ericaceae after Jocelyn Powell retired.

She continued as a Scientific Officer, unwilling to promote herself, partly because of a lack of confidence to seek advancement in the more competitive New South Wales Public Service Research Scientist scheme, and partly because she was satisfied with her employment classification. Elizabeth wrote most of the Asteraceae flora treatment for the Flora of New South Wales. She had a great liking for the daisies and continued to be interested in the family after finishing the flora account. Although she did not publish any research on this family, she knew it very well and was often called to do the more difficult identifications. She passed on a lot of her knowledge and had many discussions about these plants with Louisa Murray, also a flora writer of Asteraceae. From 2006 until her illness, Elizabeth was the Scientific Editor of the scientific journal *Telopea*, generously assisting and encouraging authors who were not comfortable with the electronic publishing process. One of her major contributions to the journal was to guide the manuscript submission and management process from emailed files to full electronic online publishing. Elizabeth was an active member of the *Australian Systematic Botany Society Inc.*, recently *Australasian Systematic Botany Society Inc.*, being Treasurer from 2001–2002.

At work, Elizabeth was an excellent colleague and had a strong corporate ethic. It was with great passion and persistence that she helped wrap herbarium boxes in plastic, even though she did not think that this was the correct strategy for controlling insect infestation in the NSW collections. During one of the long periods of drought she continued weeding and watering garden beds at the Royal Botanic Gardens, Sydney to help the horticultural staff, long after others had returned to their herbarium duties. Elizabeth was committed to rescuing the Royal Botanic Gardens from the thousands of flying foxes that were destroying the trees. In the operation of this trans-location program which lasted for several years, Elizabeth was a stalwart. She would arrive at the Gardens before sunrise at least three mornings a week to do ‘bat work’. This involved either frightening the flying foxes away by using loud noises or capturing them in mist-nets so that the weight of the animals could be monitored. She even reported to her flying fox ‘station’ one Christmas morning. When asked why she would do that, her answer was “because no-one else was available!” When we arrived at the herbarium after one of these ‘bat work’ mornings, we would often find Elizabeth fast asleep under her desk before she started her work for the day. Of course, breakfast was usually eaten at the office, not at her home.

In many ways, Elizabeth was more process-focussed than goal-orientated. In science, she was often more engaged in ensuring the correct research process was undertaken than on the potential outcome. Hence, much of her time was spent checking and re-checking the collection of data, more than on the interpretation and discussion of results. She organised the herbarium tea club because she could not cope with the kitchen antics of an institution, somewhat contrary to her dislike of housework in her own home. She was a Union delegate of the Public Service Association, involving all the staff of the Royal Botanic Gardens, Sydney, and was happy to assist people who were having problems at work. Although Elizabeth was quiet, reserved and usually not demonstrative, she could loudly voice her disapproval when she felt it was necessary. The corporate-speak of staff meetings was often reduced to the essential issues by her wonderful cutting comments.

Field work

Elizabeth loved field work and managed to go to many places every year. Partly as a result of her annoyance at the ever increasing level of public service bureaucracy, Elizabeth personally funded many of her field studies. Her most travelled spots were Australia (particularly Tasmania and Queensland), New Caledonia, Fiji, and New Zealand, but she also made brief visits to Malaysia, Papua New Guinea and Vanuatu. However, when



Fig. 2. Elizabeth Brown collecting Lejeuneaceae, N of Hobu village, E of Sankwep River, Papua New Guinea. Photo: Barry Conn



Fig. 3. Elizabeth Brown drinking coconut milk, Mumeng village, Papua New Guinea. Photo: Barry Conn

her collections are studied in detail, it was Lord Howe Island (New South Wales) that she visited most. She first went to Lord Howe Island in 2000 and then went whenever she could manage it, sometimes twice in one year. The people of Lord Howe Island started a weeding program, and other staff from NSW went with her to assist in the removal of Asparagus fern (*Asparagus aethiopicus* and *A. plumosus*). While she was weeding on the island she made many plant collections, in particular of bryophytes and weeds. She maintained a long-term collaboration and friendship with Ian Hutton, specialist naturalist of the Island, who acted as a guide and joint collector over many years. In November 2000 Elizabeth and Barry Conn helped Jenny Le Cussans, a short-term resident of the island, establish an herbarium which is now housed in the Lord Howe Island Museum. Each of Elizabeth's days in the field was long. After all the processing of the vascular plants was complete, the bryophyte collections were attended to. Open envelopes of bryophytes were pegged to temporary clothes lines criss-crossing the room, while others were balancing precariously on or next to the air-conditioner that had to remain on all night, even though this made sleeping uncomfortable. The preparation of the evening meal was never considered until all collections had been dealt with. The concept of a day off or a short day while in the field was never an option.

Influences

Her mother and father were both strong influences in her life. Although her father was reported to be very demanding and difficult, somewhat abrupt and generally not very sociable, he instilled in her a passion for scientific rigour. However, he was concerned about the level of perfectionism that she displayed which proved to limit her achievements throughout her scientific career. Her mother, a nurse, was much more affectionately remembered by Elizabeth. They shared a passion for sewing and cooking. In 2001, Elizabeth coordinated NSW staff and others to make a commemorative quilt for the centenary of the Herbarium. She was one of the innovators of the design and one of the major contributors. Her sewing passions led her to sew many beautiful shirts, mostly with flamboyant botanical designs, for her brother David. These shirts were made with such precision and accuracy that they are truly works of art. Many of the female staff who became pregnant found that they had a quilt for their baby to take home. This usually meant long nights sewing at Elizabeth's as these quilts had a due date and, therefore, had to be completed, unlike many of the quilts that she was making for herself.

Elizabeth's culinary skill was well known. Those who were privileged to have tasted her cheesecakes will remember them with relish. Every time there was a herbarium function, Elizabeth usually obliged us with one of these delicious cheese cakes. Barry Conn hated 'NSW Staff Cake Tasting' competitions when he was competing against her! One of her Information Technology colleagues once asked her to cook a cake for him so that he could enter in this competition. She complied, but surprisingly, it proved not to be the winning entry. Elizabeth was once pulled up in customs as she was travelling with five Christmas cakes that she had made for her family and friends and was transporting them in her hand luggage, home to New Zealand for the festive season.

Her restricted dietary requirements, as well as her vegetarianism, also defined much of who she was. Travelling throughout far northern rural Queensland was always challenging for her and for her travelling companions. Her protests and persistent need to promote the rights of vegetarians, even in meat-loving rural areas, was often received with incredulous amusement by the kitchen staff at local road-house eateries. Driving around the small township of Herberton, Queensland at 10:00 pm, on a wet Sunday night, in search of an alternative café that did not exist, proved to be tedious for all involved. However, her frustration at the lack of vegetarian choices was very understandable, especially when kitchen staff and waiters did not comprehend why vegetable soup made with chicken broth was not vegetarian. In Lae, Papua New Guinea, the owner of a small kiosk misunderstood why Elizabeth could not eat lamb stew, so during the night she sent her teenage son out in a small boat into the Huon Gulf to catch a fish which she served up the next day. Elizabeth ate the fish and thanked the woman and her son for being so thoughtful. On these occasions, of which there were many, it was always a privilege to be her friend because she had a deep respect for other people.

Elizabeth was a person of habits. She took comfort in the routine provided by the same repeated activities. For many years, she had lunch at the 'Chifley' food-court in the city, a massage once every week, every Monday emptying the contents of the herbarium refrigerator of unclaimed food, Tai Chi every Thursday evening, later every Saturday morning, and down to the farm at Tahmoor every weekend. These routines contrasted with the disorganisation and lack of concern for her personal possessions. She was often heard to exclaim that something had been 'stolen' from her office, only for her Nikon camera, which was normally placed on the

floor of her office, to be found under clothing in her cupboard; the stolen \$400, taken from her desk, to be found a few days later under the keyboard of her computer, or the mobile telephone that was 'stolen' from her office to eventually be recovered at home!

Students and mentoring

Elizabeth was always eager to embrace anyone who was interested in the world of bryophytes, and if she felt that others were forgetting their existence she would remind them pronto! For a number of years (1992–2001) she spent one day per week at the University of New South Wales working on the systematics of Ericaceae with Chris Quinn. She became an Adjunct Lecturer at University of New England (UNE) assisting with the teaching of an advanced Systematics course held at UNE and NSW. She was also an affiliate appointed at the level of Senior Lecturer at the University of Sydney. She co-supervised many students at both of these Universities, as well as James Cook University (see below). Many years ago she also lectured to second year botany students at the University of Sydney. However, it was always challenging for Elizabeth to present lectures in the formal setting of large lecture theatres. She was more relaxed and made better, less data-intense, presentations to smaller workshop groups such as the former NSW Internship program. She co-supervised many students at both of these Universities, as well as James Cook University. Students were a big part of her working life. She actively supervised the research program, often with them for many weeks in the field, and spending many hours discussing the latest methodologies and theories. Of the many students that were supervised, Matt Renner continued as a Post-doctoral Fellow with her at NSW.

She mentored many people, for example Leah Seed (formerly NSW) who worked on the genus *Porella* (Porellaceae), with short-term funds from the Janet Cosh research bequest. She guided Will Cuddy and Hannah McPherson both technical officers to Elizabeth in 2002 who worked on the genus *Fossombronia* (Fossombroniaceae), and who both later went on to complete their PhD. She engaged with the herbarium scientific volunteers and some of them became workers on bryophytes. Syd Pinner was one such volunteer who came in weekly for nearly 20 years to work on the cryptogam collection. Elizabeth was very respectful of the staff that curated her groups in the herbarium. She had a very good working relationship with Kathi Downs, who with Elizabeth, transformed the bryophyte collection, by changing the way that the specimens were physically curated and housed as well as identifying the collection with the most recent names.

Personal life

Elizabeth mainly lived alone in an apartment in Erskineville, Sydney; however she was happiest when with friends and animals. She spent her weeks with her friends in Sydney and her weekends with Barbara Wiecek and John (Rex) Harrison at Tahmoor with the horses, dogs, hens and their garden. Elizabeth was particularly interested in gardening and loved growing vegetables and fruits, partly because she was vegetarian. She loved all plants, but had a passion for irises and was an active member of the *Iris Society of Australia*.

Rex and Barbara tell the wonderful story of the day that she killed a rabbit that had entered the veggie patch and was eating the asparagus! She marched in with the dead rabbit, head in one hand and the separated body held by its legs in the other, dripping with blood. Apparently this rabbit had performed the mortal sin – it existed as a rabbit! Elizabeth said, "This one's big enough to eat!" Then, with great vigour, she skinned and gutted the rabbit with unusual enthusiasm, marinated it in port, cooked and ate it for her evening dinner.

Elizabeth had three horses in her life, *Spangle*, *Rosie* and later *Morocco*, her horse of recent years. Since she was not a natural athlete, she had several tumbles from her horses. Battered and bruised she was often seen limping down the corridor at work. However, she said that it was never the horses' fault. With quiet resolve, she just got back up into the saddle and carried on. Elizabeth was diagnosed with primary liver cancer (intrahepatic cholangiocarcinoma) in early July 2013. Unfortunately the cancer was spread all through the bile duct and liver. Although she undertook chemotherapy it was soon evident that she was very sick, and soon after some time in the Royal Prince Alfred Hospital, she was told that although the chemotherapy had reduced the advancement of the cancer, it would not help her to get well. She still tried to come to work for an hour or so, looked after by her friends in Sydney, particularly Louisa Murray and Linn Linn Lee, who were her close friends and comrade sewing enthusiasts. Her University of Auckland friend Carol West also came to stay with Elizabeth a few times. Elizabeth's brother David visited and looked after her many times, and Barbara and Rex set up their home in Tahmoor to accommodate Elizabeth in her last couple of months. She was visited there by David and all her friends and colleagues, all coming with stories and conversation and large and cheerful bunches of flowers, which she loved and appreciated. Barbara took Elizabeth's horse Morocco to the window where she lay in her bed so that she could see and chat to him. The dogs loved the fact that they could share her bed and

enthusiastically did so. She died peacefully in the early hours of 17 November 2013, with David, Rex, Barbara and friend Frances at her side. Elizabeth will be missed. She was held with affection by her colleagues, to many as a close friend, a very private person, who, at one level, was never fully known by anyone.

Acknowledgments

We sincerely thank David Brown and the many colleagues who have reminded us of so many wonderful stories about Elizabeth's life. Only a few are retold here. It has been a privilege to take the time to remember a dear friend.

Other biographies:

Australasian Bryological Newsletter (in preparation)

<http://www.utas.edu.au/australasian-bryological-newsletter/>

Summary of collection localities

1989: Australia (NSW, VIC); New Zealand. 1990: Australia (NSW, TAS); New Zealand. 1991: Australia (NSW). 1992: Australia (QLD, Lord Howe Island). 1993: Australia (NSW, VIC). 1994: Australia (QLD, TAS). 1995: Australia (QLD, TAS). 1996: Australia (NSW). 1997: Australia (NSW, WA). 1998: Australia (NSW, VIC); New Zealand. 1999: Australia (QLD, Lord Howe Island). 2000: Australia (Lord Howe Island - 2 times). 2001: Australia (Lord Howe Island). 2002: Australia (NSW, including Lord Howe Island). 2003: Australia (NSW, including Lord Howe Island); New Caledonia. 2004: Australia (NSW); Papua New Guinea. 2005: Australia (NSW, including Lord Howe Island, QLD). 2006: New Caledonia; Vanuatu. 2007: Australia (NSW); Malaysia. 2008: Fiji. 2009: Australia (NSW, including Lord Howe Island); USA. 2011: Fiji. 2012: Australia (TAS).

Supervision of students

Bachelor of Science (Honours)

Owens, Corrine (1996) *Phylogenetic relationships within Monotoca R.Br. and Oligarrhena R.Br.* University of New South Wales, Australia – Supervisors: Quinn, Christopher J; **BROWN, ELIZABETH A**

Taaffe, Gabrielle (1998) *Systematics of 'Gynoconus' and 'Axonanthus'*. University of New South Wales, Australia – Supervisors: Quinn, Christopher J; **BROWN, ELIZABETH A**

Streiber, Nikola (1999) *Revision of the genus/Revision der Gattung Astroloma (Epacridaceae)*. University of New South Wales, Australia/Rheinischen Friedrich-Wilhelms-Universitaet, Bonn, Germany (Diplomarbeit) – Supervisors: Quinn, Christopher J; **BROWN, ELIZABETH A**; Keller, Eberhard

Cooper Endymion D (2007) *Systematics of the Liverwort genus Telaranea: can nucleotide sequences and morphological data resolve species relationships?* The University of Sydney, NSW, Australia – Supervisors: Henwood, Murray J; **BROWN, ELIZABETH A**; Pye, Matthew

Master of Science

Moore, Iain SF (2014) *Systematics in the Bulbine glauca complex (Asphodelaceae or Xanthorrhoeaceae subfam. Asphodeloideae)*. University of New England, NSW, Australia – Supervisors: Bruhl, Jeremy J; Telford, Ian RH; **BROWN, ELIZABETH A**

Doctor of Philosophy (PhD)

Streiber, Nikola (2004) *Systematics of Chloanthaeae (Lamiaceae)*. The University of Sydney, NSW, Australia – Supervisors: Henwood, Murray J; **BROWN, ELIZABETH A**; Conn, Barry J

Renner, Matthew AM (2008) *Morphological variation informs evolutionary relationships with the Lejeunea tumida Aggregate (Lejeunaceae: Marchantiophyta)*. The University of Sydney, NSW, Australia – Supervisors: Wardle, Glenda; **BROWN, ELIZABETH A**

Cooper Endymion D (2011) *Systematics of the Lepidoziaceae: Understanding relationships, biogeography and morphological evolution of the Hyperdiverse family of Hepatics*. The University of Sydney, NSW, Australia – Supervisors: Henwood, Murray J; **BROWN, ELIZABETH A**

Puente-Lelievre, Caroline (2013) *Systematics and Biogeography of the Styphelieae (Epacridoideae, Ericaceae)*. James Cook University, QLD, Australia – Supervisors: Crayn, Darren; **BROWN, ELIZABETH A**

Linis, Virgilio (in progress) *Systematics of Ectropothecium and its relationships in the Hypnaceae*. University of New England, NSW, Australia – Supervisors: Bruhl, Jeremy; **BROWN, ELIZABETH A**; Wu Shubiao; Mishler, Brent

New species and new combinations named by E.A. Brown

Aneuraceae

- Riccardia aequitexta* (Stephani) E.A.Br. *Journal of the Hattori Botanical Laboratory* 66: 78 (1989)
R. alba (Colenso) E.A.Br. *Journal of the Hattori Botanical Laboratory* 66: 66 (1989)
R. australis (Hook. f. & Lév.) E.A.Br. *Journal of the Hattori Botanical Laboratory* 66: 101 (1989)
R. breviala E.A.Br. *Journal of the Hattori Botanical Laboratory* 66: 46, fig. 9 (1988)
R. exilis E.A.Br. *Journal of the Hattori Botanical Laboratory* 66: 107 (1989)
R. furtiva E.A.Br. & Braggins *Journal of the Hattori Botanical Laboratory* 66: 35, fig. 5 (1989)
R. intercellula E.A.Br. *Journal of the Hattori Botanical Laboratory* 66: 58 fig. 13 (1989)
R. multicolorpora E.A.Br. *Journal of the Hattori Botanical Laboratory* 66: 40 fig. 7 (1989)
R. papulosa (Stephani) E.A.Br. *Journal of the Hattori Botanical Laboratory* 66: 49 (1989)
R. pennata E.A.Br. *Journal of the Hattori Botanical Laboratory* 66: 53, fig. 11 (1989)
R. perspicua E.A.Br. *Journal of the Hattori Botanical Laboratory* 66: 55, fig. 12 (1989)
R. pusilla (Stephani) E.A.Br. *Journal of the Hattori Botanical Laboratory* 66: 82 (1989)
R. umida E.A.Br. *Journal of the Hattori Botanical Laboratory* 66: 38, fig. 6 (1989)
Zoopsis bicruris Glennly & E.A.Br. *Journal of Bryology* 28: 332 (2006)

Calypogeiaceae

- Mnioloma stamatotonum* M.A.Renner & E.A.Br. *Fieldiana Botany new series* 47: 173 (2008)

Ericaceae

- Dracophyllum macranthum* E.A.Br. & Streiber *Telopea* 8: 393 (1999)
D. oceanicum E.A.Br. & Streiber *Telopea* 8: 396 (1999)
Leucopogon compressicarpus E.A.Br. (manuscript name)
L. inflexifolius E.A.Br. (manuscript name)
L. sulcatus E.A.Br. (manuscript name)
Lissanthe pluriloculata (F.Muell.) J.M.Powell, Crayn & E.A.Br. *Australian Systematic Botany* 16(5): 603 (2003).
L. powelliae Crayn & E.A.Br. *Australian Systematic Botany* 16(5): 604 (2003).
L. rubicunda (F.Muell.) J.M.Powell, Crayn & E.A.Br. *Australian Systematic Botany* 16(5): 607 (2003).
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Lepidoziaceae

- Acromastigum furcatifolium* (Steph.) E.A.Br. *Phytotaxa* 65: 58 (2012)

Radulaceae

- Radula ornata* E.A.Br. & Pócs *Telopea* 9: 436 (2001)

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Renner Matt AM, **BROWN ELIZABETH A**, Wardle Glenda M (2013) Averaging v. outlier removal. Decrypting variance among cryptic *Lejeunea* species (Lejeuneaceae: Jungermanniopsida) using geometric morphometrics *Australian Systematic Botany* 26: 13–30. (<http://dx.doi.org/10.1071/SB12016>)

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Pócs Tamás, **BROWN ELIZABETH A**, Cairns Andi, Cargill D. Christine, Pócs Sarolta (2012) Contributions to the Bryoflora of Australia, III. The genus *Nowellia* Mitt. (Cephaloziaceae, Jungermanniopsida). *Acta Biologica Plantarum Agriensis* 2: 21–26.

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Konrat Matt von, Naikatini Alifereti, Tuiwawa M, Söderström Lars, Fife Allan J., Renner Matthew A., Brownsey Patrick J., Perrie Leon, Hagborg Anders, Pócs Tamás, Lumbsch HT., Braggins John E, Séneca Ana, **BROWN ELIZABETH A** (2011) A brief history of the cryptogams of Fiji and prospects for the future.. *Telopea* 13(3): 361–374.

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Renner Matthew AM, **BROWN ELIZABETH A**, Wardle Glenda M (2009) *Lejeunea pocsii* R.M. Schust. is a heterotypic synonym of *L. helmsiana* (Steph.) Steph. (Lejeuneaceae: Jungermanniopsida). *Nova Hedwigia* 84(3–4): 335–346. (<http://dx.doi.org/10.1127/0029-5035/2009/0089-0335>)

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